

Searching PAJ

1/2 ページ

## PATENT ABSTRACTS OF JAPAN

(11)Publication number : 03-146048

(43)Date of publication of application : 21.06.1991

(51)Int.Cl.

A61B 17/36

(21)Application number : 01-285700

(71)Applicant : OLYMPUS OPTICAL CO LTD

(22)Date of filing : 01.11.1989

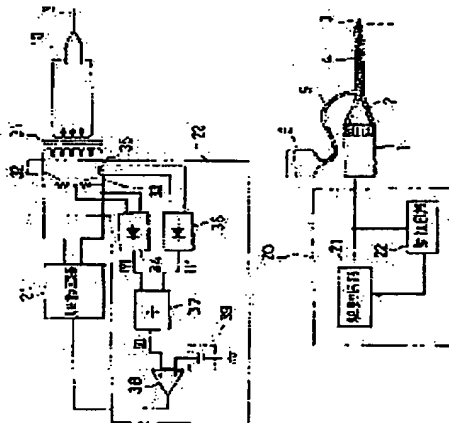
(72)Inventor : SAKURAI TOMOTAKA  
KUBOTA TATSUYA  
SUZUTA TOSHIHIKO  
HIJII KAZUYA  
KUDO MASAHIRO  
KAGAWA HIROAKI  
KARASAWA HITOSHI  
IKEDA YUICHI  
OKADA MITSUMASA  
KUBOTA TETSUMARU  
NAGASUMI HIDEO  
YOSHINO KENJI  
HAGINO TADAO

## (54) ULTRASONIC TREATMENT DEVICE

## (57)Abstract:

PURPOSE: To prevent in advance a temperature rise of an ultrasonic transfer body and to improve the safety by constituting the device so that when cooling water is not supplied, it is detected and driving is stopped.

CONSTITUTION: When a driving circuit 21 is operated, a high frequency signal is generated from its driving circuit 21, and it is supplied to an ultrasonic vibrator 10 in a hand piece through an output transformer 31. The ultrasonic vibration 10 is driven, and ultrasonic vibration is transmitted to a probe 3. In this case, cooling water in a cooling water tank 6 is supplied into a sheath 4 through a feed water tube 5, and a temperature rise of the probe 3, and also, fatigue and breakdown of the probe 3 are prevented. When the impedance  $Z$  of the ultrasonic vibrator 10 exceeds a prescribed value in an arithmetic circuit 37, an output voltage of a comparator 38 becomes a high level, and the operation of the driving circuit 21 is continued. In this case, cooling water is supplied surely to the probe 3 and driving of the ultrasonic vibrator 10 is continued. On the contrary, when there is no cooling water, the impedance  $Z$  becomes below the prescribed value, and the operation of the driving circuit 21 stops.



## LEGAL STATUS

[Date of request for examination]

[http://www19.ipdl.ncipi.go.jp/PA1/result/detail/main/wAAADJaa\\_pDA403146048...](http://www19.ipdl.ncipi.go.jp/PA1/result/detail/main/wAAADJaa_pDA403146048...) 2007/03/13